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NOTES ON *SINCLAIRIA* AND *LIABELLUM* IN MESOAMERICA (LIABEAE: ASTERACEAE)

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ABSTRACT

A key is provided for the eleven known Mesoamerican species of *Sinclairia*, and *S. hintoniorum* B.L. Turner is transferred to *Liabellum*.

KEY WORDS: Asteraceae, *Sinclairia, Liabellum*, Liabeae, Mesoamerica, key.

A treatment of the Asteraceous tribe Liabeae for the Flora Mesoamerica was prepared some years ago by the author and will appear when that flora is published. The study covers five genera, but it consists mostly of a treatment of the eleven species of *Sinclairia* occurring in the area. More recently, a revision of the genus *Sinclairia* has been published by Turner (1989a; 1989b) that treats all the species in a broadened concept of the genus. Included are species from México and members of the genus *Liabellum* that are not included in the Mesoamerican treatment. The Turner study differs in a number of details from the unpublished treatment of the present author, and a number of key characters have been missed. Because the Mesoamerican treatment is to be published in Spanish and differs from some parts of Turner's (1989a) concepts, I have decided to publish the present English version of the treatment of *Sinclairia* in Mesoamerica. A few additional notes are provided.

The two Mexican and Central American genera of the Liabeae. *Liabellum* and *Sinclairia*, are considered closely related in the recent treatments of the tribe (Robinson & Brettell 1974; Robinson 1983), and the synonymization of the two by Turner (1989a) does not violate the phyletics of the group. The species of *Liabellum* and many species of *Sinclairia* are the only members of the tribe that lack ray flowers in the heads. The large heads seen in *Sinclairia* subgenus *Megaliabum* and *Liabellum* have led Turner (1989a) to place the latter in the former group, but the character is probably ancestral to the generic pair, and the two elements may not be closely related. The branch of the subgenus *Megaliabum* with which Turner most closely associates the species of *Liabellum*

in his schema, differs from that of *Liabellum* by being mostly radiate. The present effort continues to recognize the generic distinction between *Liabellum* and *Sinclairia*, established in Robinson & Brettell (1974) and Robinson (1983). *Liabellum* shows a reduced perennially herbaceous habit from a basal tuber and has leaves sessile or winged to the base. *Sinclairia* species are larger and often scandent with distinctly petiolate leaves. A young seedling of *Sinclairia polyantha* (Costa Rica, *Funk 10077a*) has been seen with a somewhat enlarged root, but the enlargement is not as sharply demarcated, and much of its width is formed by various bulges. The fact that most *Sinclairia* species may have enlargements of the roots does not detract from the basic difference in habit between that genus and *Liabellum*. The continued acceptance of *Liabellum* as a distinct genus necessitates a transfer of one species described by Turner (1989a). Examination of an isotype (*Hinton, et al. 8482*) and a paratype (*Hinton 2038*) of *Sinclairia hintoniorum* in the U.S. National Herbarium (US) indicates that the species is distinct, and the disposition is as follows.

Liabellum hintoniorum (B.L. Turner) H. Robinson, *comb. nov.* BASIONYM: *Sinclairia hintoniorum* B.L. Turner, Phytologia 67:201. 1989.

Two additional details of difference from the Turner (1989a) treatment are worthy of a special note. The Guatemalan species *Sinclairia tajumulcensis* (Standl. & Steyerm.) H. Robins. & Bret. is now known from only the type. The species was placed in the section *Sinclairia* by Turner (1989a), but it is clearly a member of what Turner would call *Sinclairia* section *Megaliabum* with heads generally similar to those of *Sinclairia andrieuxii* (DC.) H. Robins. & Bret., except for the lack of ray flowers. Also, Turner reduces *Sinclairia dimidia* (S.F. Blake) H. Robins. & Bret. to synonymy under *Sinclairia polyantha* (Klatt) Rydb. One specimen from GUATEMALA, Dept. Izabel, *Steyermark 38200* (US), long in herbaria under the former name, is actually the latter species. Nevertheless, the type of *S. dimidia* from Tikal in GUATEMALA: Dept. Petén, *Bartlett 12602*, and three additional specimens (GUATEMALA: Dept. Santa Elena, *Tún Ortíz 1083* (US); Dept. Alta Verapaz, *J.D. Smith 1597* (US); and MÉXICO: Chiapas, *Breedlove 34987* (CAS) are distinct as indicated in the key. *Sinclairia tonduzii* (B.L. Robins.) Rydb., which Turner (1989a) places in the synonymy of *S. polyantha*, is also recognized in the present key, but the value of the distinction needs a careful review.

Key to the species of *Sinclairia* in Mesoamerica

1. Heads 15-30 mm long; involucres 12-20 mm long, densely whitish tomentose; achenes 5-7 mm long, densely sericeous setulose.

2. Heads containing 25-30 rays, 100-130 disk flowers, and 100-130 involucral bracts. ..... *S. andrieuxii*

2. Heads containing 0 rays, ca. 40 disk flowers, and ca. 40 involucral bracts. ..... *S. tajumulcensis*

1. Heads 8-15 mm long; involucres 4-11 mm long, puberulous to glabrous, without any persistent whitish tomentum; achenes 1-4 mm long, short setulose to glabrous.

3. Involucres 4-5 mm long.

4. Lower surfaces of leaves green, without whitish tomentum; heads radiate; pedicels mostly 2-10 mm long, flexuous. ..... *S. hypochlora*

4. Lower surfaces of leaves whitish tomentose; heads radiate; pedicels mostly 2-4 mm long, not flexuous.

5. Heads containing ca. 6 flowers; corollas with clustered, short, gland tipped hairs at tips of lobes; achenes with pappus of ca. 30 bristles. ..... *S. deamii*

5. Heads containing 10-12 flowers; corollas with only arachnoid hairs at lobe tips; achenes with pappus of 40-45 bristles. ..... *S. dimidia*

3. Involucres 6-11 mm long.

6. Inflorescence thyrsoid paniculate, longer than wide; heads lacking rays; involucral bracts with tips erect, not coiled backward with age.

7. Involucral bracts densely brownish puberulous on outer surface, the inner bracts with pointed tips; heads containing 30-40 flowers; leaves strictly opposite, persistent; leaf blades broadest near middle. ..... *S. sericolepis*

7. Involucral bracts without dense pubescence on outer surface, inner bracts with rounded tips; heads containing 8-15 flowers; leaves ternate or opposite, usually absent at anthesis; leaf blades broadest below basal third. ..... *S. glabra*

6. Inflorescence pyramidally paniculate, as broad as long; heads with rays; involucral bracts with tips usually strongly recurving or curling with age.

8. Leaf blades persistently pilose above, with larger hairs in addition to tomentum between veins below. .. *S. tonduzii*

8. Leaf blades essentially glabrous above, without larger hairs in addition to tomentum between veins below.

9. Leaf blades broadest at or below basal third; stems weak and with fleshy surface; inner involucral bracts often distinctly pointed. ..... *S. vagans*

9. Leaf blades usually broadest distinctly above basal third, often nearly elliptical; stems woody; tips of inner involucral bracts rounded.

10. Achenes densely setuliferous from base; stems hirsute with sparse, coarse hairs; trinervation of leaf often from 1-2 cm above base of blade; involucral bracts 1.0-1.5 mm wide. ..... *S. polyantha*

10. Achenes glabrous or with sparse setulae mostly on major ribs; stems glabrous or glabrescent. without coarse hairs; trinervation never more than 1 cm above base of blade; involucral bracts 1.0-2.5 mm wide. ..... *S. discolor*

The accepted species of *Sinclairia* in Mesoamerica are as follows: *Sinclairia andrieuxii* (DC.) H. Robins. & Brettell; *S. deamii* (B.L. Robins. & Bartlett) Rydberg; *S. dimidia* (S.F. Blake) H. Robins. & Brettell; *S. discolor* Hooker & Arnott; *S. glabra* (Hemsley) Rydberg; *S. hypochlora* (S.F. Blake) Rydberg; *S. polyantha* (Klatt) Rydberg; *S. sericolepis* (Hemsley) Rydberg; *S. tajumulcensis* (Standl. & Steyerm.) H. Robins. & Brettell; *S. tonduzii* (B.L. Robins.) Rydberg; *S. vagans* (S.F. Blake) H. Robins. & Brettell.

LITERATURE CITED

Robinson, H. 1983. A generic review of the tribe Liabeae (Asteraceae). Smithsonian Contr. Bot. 54:1-69.

_____ & R.D. Brettell. 1974. Studies in the Liabeae (Asteraceae), II: preliminary survey of the genera. Phytologia 28:43-63.

Turner, B.L. 1989a. Revisionary treatment of the genus *Sinclairia*, including *Liabellum* (Asteraceae, Liabeae). Phytologia 67:168-206.

_____. 1989b. Taxonomic status of *Sinclairia adenotricha* (Asteraceae: Liabeae). Phytologia 67:386.